

## REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed June 1, 2005.

Currently, claims 1-69 are pending. Applicants have amended claims 1, 2, 4, 5, 13, 16, 17, 23, 24, 32, 38, 42, 44, 48, 51, 54, 60, 64, & 67. Applicants have added claim 70. For the reasons discussed below, Applicants respectfully submit that the claims 1-70 are in condition for allowance.

Claims 5, 6, 8, 42 and 58 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

Applicants have amended claim 5 to include the limitations of base claim 1 and the limitations of intervening claim 3. By reason of its dependence upon claim 5, claim 6 includes all limitations found in claim 5. Thus, Applicants respectfully submit that claims 5 and 6 are in condition for allowance.

Claim 8 will be discussed following claim 1.

Applicants have amended claim 42 to include the limitations of base claim 38; Thus, Applicants respectfully submit that claim 42 is in condition for allowance.

Claim 58 will be discussed following claim 54.

Claims 1, 3, 4, 7, 9-22, 32-34, 36, 37, 38, 40, 43-47, 51, 53, 56, 57, 59-63, 67, and 69 are rejected under 35 U.S.C. 102(b).

The Examiner rejected claims 1, 3, 4, 7, 9-22, 32-34, 36, 37, 38, 40, 43-47, 51, 53, 56, 57, 59-63, 67, and 69 under 35 U.S.C. § 102(b) as being anticipated by *Killian* (U.S. Patent 5,940,394). Because the cited prior art does not disclose all of the limitations of claims 1, 3, 4, 7, 9-22, 32-34, 36, 37, 38, 40, 43-47, 51, 53, 56, 57, 59-63, 67, and 69, Applicants respectfully assert that the claims are in condition for allowance.

Applicants' invention teaches a method for communicating using two addresses for an entity. For example, a destination on a private network can be reached by a global address and a local address.

Each of the hosts on the network can be assigned a local address. The same local addresses can be used by many different networks. When a source entity sends data to a destination entity with a local address, the data is sent to the global address for the destination's network. The data also includes an indication of the local address of the destination entity. The gateway associated with the global address receives the data and forwards it to the entity associated with the local address within the data. Thus, communication with an entity using local address can be initiated by an entity outside the network. (Specification p13 lines 8-13).

In one embodiment of the present invention, a message is created which includes encapsulation within a single protocol level. Specifically, this can be used to communicate with a destination entity on a private network.

Figure 4 shows two networks connected to Internet 138. The first network includes Gateway 1 which has a global address  $GIP_1$  and a local address of  $LIP_1$ . Gateway 1 is connected to a private network 144 which is made up of a number of entities using local addresses ... Figure 4 shows Gateway 2 connected to Internet 138 and to private network 162. Gateway 2 has a global address of  $GIP_2$ . Figure 4 shows part of network 162 including three entities 166, 168 and 170; however, more or less than three entities can be used. Entity 170 is labeled as B and has a local address of  $LIP_B$ . (Specification page 13 paragraphs 2 and 3).

The present invention allows entity A ("A") to initiate a communication with entity B ("B") by using both the global address for Gateway 2 ( $GIP_2$ ) and the local address for B ( $LIP_B$ ). Similarly, B can initiate communication with A utilizing the global address for Gateway 1 ( $GIP_1$ ) and the local address for A ( $LIP_A$ ). (Specification, page 16 paragraph 4 – page 17 paragraph 1).

Step 452 of Fig. 11 includes building the encapsulated packet of Fig. 12. In step 454, host A sends the encapsulated packet of Fig. 12 toward host B. In step 456, the encapsulated packet of Fig. 12 is received by Gateway 1. Gateway 1 removes the outer most level of encapsulation. For example, in the encapsulated packet of Fig. 12, Gateway 1 removes packet 500 so that only packets 502, 506 and 508 remain. In step 458, Gateway 1 sends the remaining encapsulated packet (which includes packets 502, 506, and 508) to Gateway 2. In step 460, Gateway 2 receives the encapsulated packet and removes one layer of encapsulation. For example, Gateway

2 removes packet 502, the outer most packet. In step 462, Gateway 2 sends the remaining encapsulated packet to host B. In step 464, host B receives the remaining encapsulated packet (with packet 506 and packet 508) and removes the outer most layer of encapsulation. For example, B removes packet 506 and stores the destination and source addresses from header portion 530. In step 466 B acts on packet 508 which is the data desired to be transmitted from A to B. (Specification, page 20, paragraph 5 – page 21 paragraph 1).

The communication using two addresses for an entity described above is not taught by *Killian* and is recited in the claims. For Example claim 1 recites:

obtaining a first local address for a destination entity and a first global address associated with said destination entity, said destination entity is on a private network that uses said first local address to communicate with said destination entity.

This limitation is not taught in the cited prior art.

Rather, *Killian* teaches namespace tunneling through nested or sequential namespaces in broadband interactive systems.

In the present invention, the technique of tunneling is put to a new use: namely to route a packet through subnetworks that have different namespaces than the one to which the source **and** destination addresses in the packet's original header belong. The new use, termed herein namespace tunneling, is shown in FIG. 3. There, a network 301 is shown which has a subnetwork 303 with namespace A and a subnetwork 325 with namespace B. A packet 305 with a source whose address belongs to namespace A **must** travel via subnetwork 325 to a destination whose address belongs to namespace A. (*Killian* Col. 5 Lines 10-22, emphasis added).

In requiring that a destination and source address be from the same namespace, *Killian* teaches away from the use of routing packets over the Internet based in part on a local addresses. This drawback to *Killian*'s teachings has been discussed in the background section of the Applicants' specification at page 4, first paragraph:

Local addresses are not unique and are typically used for entities not having direct access to the Internet. Local addresses can be used by more than one organization or network. In the past, a local address could not be used to route on the Internet. Local addresses traditionally can only be used within a private network. (Specification p4, paragraph 1).

Applicants have addressed the cited prior art in the background section of the specification.

Applicants assert that *Killian* does not teach every limitation of Applicants' claims, therefore Applicants assert that claim 1 is patentable over the cited prior art.

Claims 3, 4, 7, 8 and 9-12 are dependent on claim 1, therefore for the same reasons as discussed with respect to claim 1, Applicants assert that claims 3, 4, 7, 8 and 9-12 are in condition for allowance.

Claim 38 recites limitations similar to those found in claim 1. Claims 40 and 43 by reason of their dependence on claim 38 also contain this limitation. Independent claim 44 recites limitations similar to those found in claim 1. Claims 45-47 by reason of their dependence on claim 44 also contain these limitations. Claims 56, 57, and 59 via their dependency on claim 54 recite limitations similar to those found in claim 1. Thus, Applicants assert that claims 38, 40, 43-47, 56, 57, and 59 are also patentable over the cited prior art.

Independent claim 13 recites limitations not found in claim 1 such as:

receiving a message, said message includes encapsulation within a single protocol level, said message stores a first global address and a first local address as a destination address associated with a first entity, said first local address and said first global address correspond to a first entity, said first entity is on a private network, said first entity is reachable from outside the private network using said first local address and said first global address;

These limitations are not taught in the cited prior art. Thus, for the same reasons as discussed with respect to claim 1, Applicants assert that claim 13 is patentable over the cited prior art. Claims 14-22 by reason of their dependence on claim 13 also contain this limitation. Independent claims 32, 51, 60, and 67 recite limitations similar to claim 13. Claims 32-34, and 36-38 depend from claim 32 and also contain all of its limitations. Thus, the Applicants assert that claim 32-34, and 36-38 are patentable over the cited prior art. Claim 53 depends from claim 51 and also contain its limitations. Claims 61-63 by reason of their dependence on claim 60 contain its limitations. Claim 69 depends from claim 67 and therefore contains its limitations. Thus, Applicants assert that claims 14-22, 32-34, 36-38, 51, 53, 60-63, 67, and 69 are also patentable over the cited prior art.

Claims 2, 23-31, 39, 48-50, 55 and 64-66 are rejected under 35 U.S.C. 103(a)

The Examiner rejected claims 2, 23-31, 39, 48-50, 55 and 64-66 under 35 U.S.C. 103(a) as being obvious in light of *Killian* and *Cunningham et al.* (U.S. Patent 6,888,837). Because the cited prior art references, alone or in combination, do not teach or suggest all of the limitations of Applicants' amended claims, Applicants assert that claims 2, 23-31, 39, 48-50, 55 and 64-66 are patentable over the cited prior art and are in condition for allowance.

Applicants' claims recite a method for communicating based on a local address and a global address associated with a destination entity. For example, claim 2 is dependent on claim 1, which recites

obtaining a first local address for a destination entity and a first global address associated with said destination entity, said destination entity is on a private network that uses said first local address to communicate with said destination entity.

*Killian* does not teach or suggest the claimed method of communicating.

*Cunningham et al.* teaches a method for network address translation (NAT). According to *Cunningham et al.*,

A network address translator (NAT) maps an overlapping domain-specific network address in a first address domain (referred to hereinafter as a "local address") to a unique global address that is specific to a second address domain. (*Cunningham et al.* Col. 3 Lines 50-55).

It is respectfully submitted that *Cunningham et al.* does not teach or suggest:

obtaining a first local address for a destination entity and a first global address associated with said destination entity, said destination entity is on a private network that uses said first local address to communicate with said destination entity.

A person having ordinary skill in the art would not be motivated to combine *Killian* with *Cunningham* because the two teach mutually exclusive approaches. According to *Cunningham*:

In accordance with the present invention, a network address translator (NAT) maps an overlapping domain specific network address in a **first address domain** (referred to hereinafter as a "local address") to a unique global address that is specific to a **second address domain**. (Cunningham, Col. 3, lines 50-55, emphasis added).

This teaching may be compared with the teachings of *Killian*:

In the present invention, the technique of tunneling is put to a new use: namely to route a packet through subnetworks that have different namespaces ... A packet 305 with a source whose address belongs to namespace A **must** travel via subnetwork 325 to a destination whose address belongs to namespace A. (*Killian* Col. 5 Lines 10-22, emphasis added).

Thus, Applicants respectfully submit that *Killian* and *Cunningham et al.* would not be combined as the examiner has suggested because *Killian* and *Cunningham* teach mutually exclusive approaches.

Even if the cited prior art were combined, the resulting combination would involve network address translation. As discussed above NAT has been discussed in the background section of the Applicants specification. Thus, the resultant combination would not teach:

obtaining a first local address for a destination entity and a first global address associated with said destination entity, said destination entity is on a private network that uses said first local address to communicate with said destination entity.

Thus, Applicants assert that claim 2 is patentable over the cited prior art.

Claim 39 via its dependency on claim 38 recites similar limitations to those found in claim 1. Claim 55 via its dependency on claim 54 also contains a similar limitation. Thus, for the same reasons discussed above with respect to claim 2, Applicants assert that claims 39 and 55 are patentable over the cited prior art.

Claim 23 contains limitations not found in claim 2:

using a domain name to obtain a first local address for a destination entity and a first global address associated with said destination entity, said destination entity is on a private network that uses said first local address to communicate with said destination entity.

This limitation is not taught or suggested in the cited prior art. Thus, for the same reasons discussed above with respect to claim 2, Applicants assert that claim 23 is patentable over the cited prior art. Claims 24-31, are dependent on claim 23 and therefore recite the limitations found in claim 23. Claim 48 contains limitations similar to claim 23. Claims 49 and 50 are dependent on claim 48 and therefore recite its limitations. Claim 64 contains limitations similar to claim 23. Claims 65 and 66

via their dependency on claim 64 also recite its limitations. Thus, Applicants assert that claims 23-31, 48-50, and 64-66 are patentable over the cited prior art.

New Claim 70

New claim 70 depends from claim 1. Thus, for the reasons discussed above with respect to claim 1, Applicants assert that claim 70 is in condition for allowance.

Based on the above amendments and these remarks, reconsideration of claims 1-69 and consideration of claim 70 is respectfully requested.

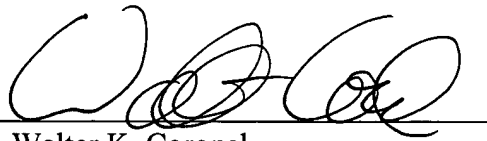
The Examiner's prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned agent by telephone.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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By: \_\_\_\_\_

  
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